

New Products

Broadband IR LED Emits Light from 650-1,050 nm



THE SFH 4735 broadband emitting infrared LED from Osram Opto Semiconductors is based on a blue 1-mm² chip in UX:3 technology and a special phosphor converter. The emission spectrum of the LED has a homogeneous spectral distribution in the infrared range, targeting the chip at near-infrared spectroscopy for analyzing food quality. The LED allows infrared spectroscopy to use the characteristic absorption behavior of certain molecular compounds—if a defined spectrum is directed at a sample, it is possible to determine the presence and quantity of certain ingredients from the wavelength distribution of the reflected light.

The new development enables this sensor technology to move into the consumer sector, for example, as an add-on for smartphones. A compact sensor, like a USB stick, could be used with an appropriate smartphone app to measure calories, freshness or nutritional content of food. Medicines can also be checked in the same way. Spectrometers are expected to be able to be integrated directly in mobile devices in the near future. The chip is mounted in the compact Oslon Black Flat package, which boasts excellent thermal resistance.

OSRAM OPTO SEMICONDUCTORS

<https://www.osram.com/os>

Power Supply Outputs 250 kW at >92% Efficiency

THE NEW 250 KW HVPS SERIES switching mode power supplies from Diversified Technologies (DTI) are compact, fully integrated solid-state single enclosures that provide 15 to 100 kV adjustable output with >92% efficiency and >100,000 hours MTBF. The high voltage dc power supplies are packaged in a 24 in. x 36 in. x 74 in. cabinet, use tap water for cooling, and eliminate the need to connect and control multiple smaller switching power supplies.

Configurable to user requirements, the 250 kW switching mode power supplies are suitable in a range of industrial and research applications.

The dc power supplies feature <0.1% ripple and regulation with <<10 joules stored energy, depending upon configuration, and offer full over-voltage and over-current protection up to +30% or preset to ±0.1% max. ripple. A DTI 250 kW HVPS Series switching-mode power supply is priced from \$195,000 with custom configurations available.

DIVERSIFIED TECHNOLOGIES

www.divtecs.com



Failsafe SPDT Switch Features Low Loss, High Linearity

THE GRF6011 FAILSAFE SPDT switch from Guerrilla RF provides low loss and high linearity, combined with failsafe operation, for applications ranging from 100 MHz to 3.8 GHz, including cellular boosters, cellular infrastructure, and L-Band satcom. A key application is at the LNA in a tower-mounted amplifier, where failsafe functionality is typically implemented using mechanical relays or Schottky diode switches external to a traditional LNA device.

The SPDT switch provides failsafe operation with one RF path defaulting to a low insertion loss state, with all power removed and the other path defaulting to a high insertion loss state. Only a few external capacitors are required for dc blocking, which helps to achieve the compact application footprint. The device is operated from a supply voltage of 3 V to 5 V with the single control input from 3 V up to VDD. At 1,900 MHz, typical 3.3 V RF performance is as follows: insertion loss: <0.45 dB; IIP1 dB: >31 dBm; and IIP3: >50 dBm. Offered in a 1.5 x 1.5 mm DFN-6 package, the GRF6011 SPDT switch is priced at \$1.45 each/10,000. Samples and evaluation boards are available now.

GUERRILLA RF

guerrilla-rf.com